

# Choreographic Cognition: Researching Dance 1999-2008

## Unspoken Knowledges:

expanding industry productivity and value through strategic research into choreographic practice

## Conceiving Connections:

increasing industry viability through analysis of audience response to dance

## Intention and Serendipity:

investigating improvisation, symbolism and memory in creating Australian contemporary dance



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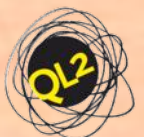
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## Researching Dance – An Overview

Contemporary dance – a highly visible and physical art form – is one of the major vehicles through which Australian stories and cultural diversity are communicated to the world. Yet, relatively little is known about the processes that underpin creation and performance of communicative dance works, and less still about the processes and stylistic traditions that are unique to the Australian art form.

Since 1999, three multidisciplinary research teams led by Professor Shirley McKechnie and Robin Grove have investigated the psychological processes involved in creating, performing and observing Australian contemporary dance. In collaboration with dance and university partners, the initial project *Unspoken Knowledges* provided Australian choreographers and dance artists with the time to explore, test and revise material for the creation and analysis of new works. The second project, *Conceiving Connections*, investigated the way audiences in metropolitan and regional areas respond to highly evolved dance works. Most recently, *Intention and Serendipity* has examined processes of improvisation and explored the nature of dancers' memory for movement material.

Outcomes include the commission, creation and performance of a number of new Australian dance works and films, publishing e-book, book chapters and journal articles, graduating four higher degree researchers, convening research symposia connecting dance, psychology, cognitive science and music, and producing a nationally broadcast documentary film.

## Key Findings and Outcome

### *Unspoken Knowledges*, 1999-2001

The transfer of kinesthetic or embodied knowledge from the body of one dancer to another is at once unspoken and communicative. To Grove (2000), the dancer's language is a kind of utterance of the body or the body *being* uttered by a language it doesn't entirely know.

Recent research in neuroscience has shed light on "mirror neurons" and this has important implications for unspoken knowledge in dance. The mirroring refers to the activation of similar neural patterns in the brain during both performance and observation of an action. This may explain the tendency for dancers to feel the movement or feel as if they are performing the movement as they observe others dancing. We termed this tendency to "join in", sympathetic kinesthesia (Stevens et al. 2001). Part of the reward in watching dance is not only to recognize affect and meaning from the dancers but to experience affect and meaning as expressed by our own bodies and minds.

Drawing on contemporary writings and extensive studio investigations, we have considered the dance ensemble as a microcosm of world structure and as a dynamical system. A dynamical systems view holds that behaviour is continuous and each component acts and interacts with others in the system. Each state of the system determines the next state so that a structure or form evolves. In the examples studied, the choreographer is many things – conceiver, creative thinker, teacher and learner; sometimes at the head of a centralized system in her role of initiator and arbiter of structures; sometimes as part of a more distributed system in which thoughts and actions of individual artists contribute to a coherent and potent whole (McKechnie, 2001)

### New Works

Healey Sue, Heaven Michelle, Not Entirely Human. (19 min solo dance). Music, Darrin Verhagen. 2000.

Smith Anna, in collaboration with Duffy, J., Skipp, K., Steven, N., Stewart, D., Red Rain (pictured), (39 minute ensemble work for 7 dancers). Music, Tan Dun, Installation, Elizabeth Boyce. 1999. (Melbourne Green Room Award for original choreography, 1999).

Smith Anna with Duffy J, Skipp K, Stewart D, Quiescence (30 minute ensemble work for 8 performers). Music, Arvo

Part. 2001. (Melbourne Green Room Award for original choreography, 2001).

### Selected Publications

Grove R. In the house of breathings. In: Graham S (ed): Proc Australia New Zealand Dance Research Society Forum. Auckland University of Technology, 1999.



Grove R. Unspoken knowledges. *The Critical Review*. 2001;41:1-10.

Heaven M. The choreographer-performer collaboration. Unpublished MA thesis, University of Melbourne, 2000.

McKechnie S, Grove R. Thinking bodies. *Brolga: An Australian Journal about Dance*. 2000;June:7-14.

McKechnie S. Mind in motion: seeking a theory of choreographic cognition. *Choreography and Dance*. 2001; 6(2-3):139-154.

Stevens C, Malloch S, McKechnie S, Steven N. Choreographic cognition: the time-course and phenomenology of creating a dance. *Pragmatics & Cognition*. 2003;11(2):297-326.

Stevens C, Malloch S, McKechnie S. Moving mind: the cognitive psychology of contemporary dance. *Brolga: An Australian Journal about Dance*. 2001;15:7-14.

## **Conceiving Connections, 2002-2004**

In this project, we considered responses to dance: what elements encourage audiences to respond to dance works with insight, pleasure and understanding? Emotional and cognitive reactions were recorded from more than 400 audience members watching live performances of *Red Rain* or *Fine Line Terrain*. Impacts of expertise, choreographic intention, and pre-performance information were also assessed. Detailed responses from audience members suggest that they enjoyed the opportunity to describe their reactions. For novice and expert observers, a range of visual, auditory and spatial cues, and formal properties give rise to their emotional and cognitive reactions. The study also found that choreographic intention and pre-performance information influences cognitive reactions.

### **New Works**

Adams, Neil, INCARNA, with Delia Silvan, Phoebe Robinson, Lee Serle, Abbie Sherwood and graduating students from the VCA. 2005.

Healey, Sue, Circum-stance, dance film with Shona Erskine and Victor Bramich. 2003.

Healey, Sue, Fine Line, dance film with Shona Erskine and Victor Bramich, 2003. (Best Dance film, Ausdance Awards 2003; Il Coreografo Elettronico, Italy 2004; Reeldance Australia 2004.)

Healey, Sue, Fine Line Terrain with Shona Erskine, Victor Bramich, Lisa Griffiths, Nelson Reguera Perez, Nalina Wait (pictured). Composer, Darrin Verhagen. 2003.

### **Selected Publications**

Adams N. INCARNA: *Investigating spatial realization in*



*choreography*. Unpublished doctoral dissertation, Victorian College of the Arts, 2006.

Glass R. The Audience Response Tool (ART): the Impact of choreographic intention, information, and dance expertise on psychological reactions to contemporary dance. Unpublished doctoral dissertation, University of Western Sydney, 2006.

Grove R, Stevens C, McKechnie S. (eds). Thinking in four dimensions: creativity and cognition in contemporary dance. Carlton: Melbourne University Press, 2005.

Grove R. A night out. In: Craven P (ed): Best Australian Essays of 2002. Melbourne, 2003, pp. 118-129.

Healey S. Quantum Leapers. Documentary screened on ABC TV "Sunday Afternoon", September 2005.

McKechnie S From grand narratives to grands changements. Australia New Zealand Dance Research Society Journal, Auckland, 2004.

## **Intention and Serendipity, 2005-2008**

What processes distinguish improvisation as performative art and as a creative tool for



choreographed work? Dance background, styles, and current practice alter the intention inherent in improvisation; emotion is expressed and regulated in a variety of ways in improvised and rehearsed performance (Milne-Home, 2008).

The way people view and construct meaning in dance is under investigation (Vincs et al. 2007). Observers' levels of 'engagement' indicate that, given the complex multimodality and intertextuality of dance as a 'language', there is a surprisingly high degree of agreement between respondents. One of the features of these responses is the occurrence of 'gem moments', during which levels of engagement increase suddenly across a group of observers.

Eye fixations of expert and novice dance observers were compared as a window on memory. Fixation times of dance experts were significantly shorter than those of novices. Regions of fixation on dancers tended to be localized to the head and torso. Dance experts are adept at anticipating movement aided by expectations in long-term memory (Stevens et al. submitted).

### **New Works**

Landscape (2006) and Unspeakable (2007) Quantum Leap Youth Choreographic Ensemble (pictured), Canberra Theatre Centre.

Precipice Improvisation Festival, The Australian Choreographic Centre (TACC), 2006, 2007.

Soft Landing, Sol Ulbrich, 2007, 2008.

Healey Sue, 13 & 32, film with Tom Hodgson, James Batchelor, 2006.

Lehrer Jacob, Corbet David, Excavate: A Two Man Dig, TACC, May, 2006.

Lester, Garry, Documentation-Margaret Barr, UWS, 2007.

Morrish, Andrew, Trotman, Peter, The Shortest Shrift, TACC, Oct. 2007.

Vincs, Kim, Delbridge M. The Silk Road Project, Deakin Univ., Dec. 2007.

### **Selected Publications**

Erskine S. Identity formation in the adolescent dancer. Unpublished doctoral dissertation, University of Melbourne, 2007.

McKechnie S. Thinking bodies, dancing minds. *Brolga: An Australian Journal about Dance*. 2007;27:38-46.

Stevens C, McKechnie S. (2005). Thinking in action: thought made visible in contemporary dance. *Cognitive Processing*. 2005;6(4):243-252.

Vincs K, Schubert E, Stevens C. Engagement and the 'gem' moment: how do dance students view and respond to dance in real time? In: Solomon R, Solomon J (eds): *Proc 17th Annual Meeting Intl Assoc Dance Medicine & Science*. Canberra, 2007, pp. 230-234.

# Resources

## Recordings and Media

Erskine Shona. 14 x audio interviews (with transcripts) of adolescent dancers, and leaders of the Quantum Leap Youth Choreographic Ensemble, June-August, 2004.

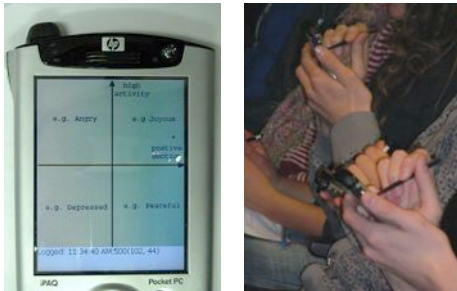
Healey Sue. *Fine Line*, dance film, 2003.

Healey Sue. *Circum-stance*, dance film, 2003.

Healey Sue. *Quantum Leapers*, documentary, 2005.

McKechnie Shirley. (Interviewer, Audio recording) Oral History Series, 2003, Archives of the Oral History Department, National Library of Australia: Sue Healey, Michelle Heaven, Margie Medlin, Chrissie Parrott, Hellen Sky & John McCormick, Anna Smith.

Mitchell Natasha. *The Dancing Brain* ABC Radio "All in the Mind", 19 March 2005.



Portable Audience Response Facility (pARF)



Photos: **Upper** (L-R): Jason Franks, Paddy Quiggin, Quantum Leap; **Lower**: Ann-maree Ellis, Josef Lehrer, photo: Jo Milne-Home.

**Inside** (L-R): Anna Smith with dancers, *Red Rain*; Australian cast *Fine Line Terrain*; Quantum Leap Youth Choreographic Ensemble.

**Cover**: Nelson Reguera Perez in Sue Healey's *Fine Line Terrain*, photo: Alejandro Rolandi; James Batchelor, Sam Maxted, Rebecca Frasca, in *Reactional Movement*, QL2, photo: Garth Paine; *Red Rain* ensemble, Anna Smith.

## Research Tools

Audience Response Tool (ART) - psychometric instrument for recording qualitative and quantitative reactions to live performance (Glass, 2006).

Portable Audience Response Facility (pARF) - 20 custom-programmed PDAs for recording continuous responses to live performance along one or two dimensions (Stevens, Schubert, & Chen).

## Chief Investigators

Prof Shirley McKechnie, Victorian College of the Arts • Robin Grove, University of Melbourne • A/Prof Catherine Stevens, University of Western Sydney • Dr Stephen Malloch, University of Western Sydney • Dr Kim Vincs, Deakin University • Dr Emery Schubert, University of New South Wales • Dr Josephine Milne-Home, University of Western Sydney.

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## Further Information

<http://www.ausdance.org.au/unspoken/>

<http://www.ausdance.org.au/connections/>

<http://marcs.uws.edu.au/search/intention>

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